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NOTICE OF REASONS FOR REJECTION

Patent Application No.:	2006-552702
Drafting Date:	June 15, 2009
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Applicable Provisions:	Article 29, paragraph 2; Article 36

It is deemed that the present application should be rejected for the following reasons. An argument, if any, should be submitted within 3 months from the mailing date of this notice.

REASONS

A. The inventions described in the following claims of this application are deemed ones which could easily have been made, prior to the filing of the patent application, by a person with ordinary skill in the art to which the inventions pertain, on the basis of the inventions described in the following publications distributed or the inventions made available to the public through electronic telecommunications lines in Japan or a foreign country prior to the filing of the patent application and, therefore, are unpatentable under the provisions of Article 29, paragraph 2, of the Patent Law.

B. The description of the claims of this application does not satisfy the requirements prescribed in Article 36, paragraph 6, item 2 of the Patent Law on the following points.

NOTE (For the numbers of the cited references, see the List of Cited References)

I. Regarding Reason A

[Regarding claims 1 to 22]

Reference 1 describes: The server of a packet switched streaming service PSS makes the client report the quality metric which is QoE. The quality measurement is defined for each type of media with regards to the media quality metric among three types of quality metrics. The client measures and reports the media used in the PSS session. The media quality metrics has a corruption duration and the burst period of the corrupted frame and the prediction of the effect of the lost I frame and lost P frame are indicated for a video. The corruption duration is defined as from the beginning of the corrupted frame to the earlier of the beginning of the subsequent good frame or the last frame of a report period. The good frame does not include quality degradations in the decoded frame. The earlier of the N frame (N is a signal transmission value, a default value of ∞ in case of video, a default value of one in case of audio) after the last loss, or the complete I frame for video is defined to be good. An RTCP protocol is used to make these quality metrics controls possible. An SDP is used in an RTSP header so that the client

negotiates the QoE metric with the PSS server. The DESCRIBE method is used at the session start-up.

When the present application and Reference 1 are compared, they are different on the following point. (Point of difference 1) With respect to the streaming quality to be reported in the present application at least two quality metrics classes for the quality metrics are specified, the quality metrics class defines the rules to decide whether a predefined different set of frame is good and the streaming quality is specified by the quality metrics class and field based on the selected quality metrics and quality metrics class, in Reference 1 while the burst period of the corrupted frame, and the effect of the lost I frame and lost P frame are indicated for the corruption duration which is the quality metric in Reference 1, there is no clear description for specifying the rules for deciding whether the frame is good, and a streaming quality is specified as a mere metric in the header field.

First, Point of difference 1 will be examined. Reference 2 describes that measurement conditions from among a plurality of measurement condition sets are selected and set for transmission path properties ("quality metrics") which are used in the information to be transmitted (corresponding to "streaming" of the present application), and the quality is measured by the selected measurement conditions.

Here, it is understood that setting the measurement conditions is determining the rules for judging whether the transmission path properties are good and the measurement conditions correspond to "quality metrics classes" in the present application. Thus, defining the rules for the quality metrics for deciding whether the predefined different set is

good as the quality metrics classes and making the streaming quality based on the selected quality metrics and quality metrics class would be easy for a person skilled in the art using the technology described in Reference 2 as the streaming quality in Reference 1 instead of the streaming quality specifying the corruption duration and the burst period of the corrupted frame, and the effect of the lost I frame and the lost P frame. Here, which field and how it is described upon specifying the quality metric in the negotiation and report are matters of design choice to be appropriately selected, thus, defining a quality metrics class field and specifying therein would be easy for a person skilled in the art.

Further, the present application and Reference 1 are different on the following points.
(Point of difference 2: corresponding to claim 7) "Deciding the earlier of a completely received I frame, N frame (N is a signal transmission value, a default value of ∞ in case of a video, a default value of one in case of audio) after the last corrupted frame to be a good frame" is defined as the rule for the judgment whether the frame is good, there is the description "deciding a frame following a good frame to be a good frame, if the frame is completely received, and the frame and all subsequent frame until the next good frame to be corrupted, otherwise." in the present application. However, there is no description thereof in Reference 1.

Point of difference 2 will be examined, Reference 3 describes that the frame data is written if a corruption-free I frame (corresponding to "complete" of the present application) arrives, the P frame after corruption is not

written until the next I frame arrives. Here, it is understood that when the frame is an I frame, if it is corrupted, it is not a good I frame, and it is deemed that all of the frames containing the frame and the subsequent P frame until a corruption-free I frame arrives are corrupted frames and are not good, thus, making the present invention would be easy for a person skilled in the art by applying the rules described in Reference 3 to Reference 1.

(Point of difference 3: corresponding to claims 8 and 9) The present application uses an error tracking algorithm as the rule for the judgment whether a frame is good, "deciding an intra-coded frame to be a good frame if it is completely received, and to be a corrupted frame otherwise, or a predictively coded frame is completely received, and if all of its prediction reference samples belong to a good frame, and to be a corrupted frame otherwise", whereas, there is no such description in Reference 1.

Point of difference 3 will be examined. With reference to paragraph [0014] of Reference 4, regarding the intra-coded data (corresponding to "intra-coded frame" of the present application), it is described that when an error is not detected, the error value which was set to a predetermined value is reset to use the intra-coded data, or when an error is not detected in the predictively coded data ("predictively coded frame") and the associated error value has been reset, the predictively coded data is used, and when the error value is not detected and the associated error value has not been reset, a concealment technology is used. Here, it is understood that using the data determines that the frame is good, the state which the error value is reset determines

that the reference samples are good frames, or and applying the concealment technology determines that the frame is not good and is a corrupted frame. Thus, making the present invention would be easy for a person skilled in the art by applying the rules described in Reference 4 to Reference 1 as the judgment criteria rules of the frame.

(Point of difference 4: corresponding to claims 10 and 11) A decoding quality evaluation algorithm is used in the present invention as the rules for judgment whether the frame is good "deciding an intra-coded frame to be a good frame, if it is completely received, and to be a corrupted frame otherwise, or deciding a predictively coded frame to be a good frame if it is completely received, and all of its prediction reference samples belong to good frames, or at least a part of the frame is completely received, all prediction reference samples of the completely received parts belong to good frames, and all concealed parts of the frame are considered as good, wherein, by applying an error concealment algorithm to lost or erroneous parts of a decoded version of the frame, and wherein, by applying an error concealment algorithm to lost or erroneous parts of a decoded version of the frame, the concealed parts are considered as good if an average boundary difference between the concealed parts and surrounding completely received and decoded parts of the frame is below a threshold", whereas, there is no such description in Reference 1.

Point of difference 4 will be examined. Paragraph [0014] of Reference 4 further describes that when the error is not detected in the predictively coded data and the associated error value has been reset, either are selected by comparing

the first estimated error predicted when using the predictively coded data and the second predicted error when applying the concealment technology. Also, concealment technology, paragraphs [0017] and [0049] to [0052] describe that the intra-coded macroblock is recovered by ascertaining the location of the error both forwards and backwards of the packet, and in accordance with the criteria for applying to the recovered macroblock, whether to use or drop the intra to coded macroblock recovered from the corrupted data is selected, and the error in the intra-coded macroblock is interpolated, depends on the linear interpolation of the data from the upper or lower macroblock displayed "up" and "down" of the defective macroblock having an error in the image. It is thought that a corrupted macroblock is concealed using the decoded parts of the completely received parts around the corrupted macroblock, and the criteria for use of the macroblock which is the concealed parts is the threshold value, and it is understood that whether the concealed parts are considered to be good is determined by the criteria, thus, making the present invention would be easy for a person skilled in the art by applying the rules described in Reference 4 to Reference 1 as the judgment criteria rules of the frame.

Therefore, the inventions according to claims 1 to 22 of the present application could have been easily conceived of by a person skilled in the art based on References 1 to 4.

II. Regarding Reason B

[Regarding claim 18]

Whether "a program product" containing a program means a "program" or means "computer readable recording media which records a program" is unclear. If it is a program, it is the same as claim 17, and if it is a computer readable recording media which records a program, the same should be stated.

Therefore, the invention according to claim 18 is indefinite.

If another reason for rejection is found, a further notice of reasons for rejection will be issued.

List of Cited References

1. M.FREDERIC GABIN, Draft Rel-6 PSS Quality Metrics Permanent Document, 3GPP TSG-SA4, MEETING 29, Finland, November 24, 2003, N.TDOC S4-030860, P1-19.
2. Japanese Unexamined Patent Publication (Kokai) No. 2003-209537
3. Japanese Unexamined Patent Publication (Kokai) No. 2003-259371
4. Japanese Unexamined Patent Publication (Kohyo) No. 2004-528752

(Note) Some or all of the non-patent literature cited may not be provided due to restriction of law or contract, etc.

Record of Results of Prior Art Search

·Searched field IPC

H04L 12/56

H04L 29/06
H04N 7/32

·Prior Art Search
Japanese Unexamined Patent Publication (Kohyo) No. 2007-503741 (QoE for Wireless Communications Network)
Japanese Unexamined Patent Publication (Kohyo) No. 2006-513592 (Interpolation of Intra/Predictive Compression Frames)
Japanese Unexamined Patent Publication (Kokai) No. 2001-285390 (Example of Skipping Frames until an I Frame)

This Record of Results of Prior Art Search does not constitute a reason for rejection.

This Record of Results of Prior Art Search does not constitute a reason for rejection, but may be used to indicate known art references etc. for a future amendment.

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